

TASK ORDER

47QFCA19F0011

Pacific Command (PACOM) Innovation and Experimentation Support Services (PIESS)

in support of:

United States Indo-Pacific Command (USINDOPACOM)



Issued to:

AECOM Management Services, Inc. under contract GS00Q14OADU140

Conducted under Federal Acquisition Regulation (FAR) 16.505

Issued by:

**The Federal Systems Integration and Management Center (FEDSIM)
1800 F Street, NW (QF0B)
Washington, D.C. 20405**

APRIL 25, 2019 - Modification PS01

FEDSIM Project Number 2018083DE

C.1 BACKGROUND

The United States Indo-Pacific Command (USINDOPACOM) is one of six geographic Unified Combatant Commands of the United States (U.S.) Armed Forces. Commander, USINDOPACOM is the senior U.S. military authority in the USINDOPACOM Area of Responsibility (AOR). Commander, USINDOPACOM reports to the President of the United States through the Secretary of Defense and is supported by four component commands: U.S. Pacific Fleet (USPACFLT), Pacific Air Force (PACAF), U.S. Army Pacific (USARPAC), and Marine Forces Pacific (MARFORPAC). These four commands are headquartered in Hawaii (HI) and have forces stationed and deployed throughout the region.

The USINDOPACOM AOR encompasses about half the earth's surface, stretching from the waters off the west coast of the U.S. to the western border of India, and from Antarctica to the North Pole. There are few regions as culturally, socially, economically, and geo-politically diverse as the Asia-Pacific region. The 36 nations that comprise the Asia-Pacific region are home to more than 50 percent of the world's population, 3,000 different languages, several of the world's largest militaries, and five nations allied with the U.S. through mutual defense treaties. Two of the three largest economies are located in the Asia-Pacific along with ten of the 14th smallest. The AOR includes the most populous nation in the world, the largest democracy, and the largest Muslim-majority nation. More than one third of Asia-Pacific nations are smaller, island nations that include the smallest republic in the world and the smallest nation in Asia.

USINDOPACOM also represents a highly complex and extensive Department of Defense (DoD) organization in terms of personnel and equipment. There are approximately 375,000 U.S. military and civilian personnel assigned to the USINDOPACOM AOR. At any one time, there are thousands of aircraft, tens of thousands of land-based troops and hundreds of ships operating in the USINDOPACOM AOR.

C.1.1 PURPOSE

The purpose of the acquisition is to procure professional services in support of various innovation and experimentation efforts associated with Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) mission areas. These services provide the Government with innovative technology or procedural solutions and capabilities to address warfighter mission needs. The services include project management, analysis, development of recommended plans, procedures, and policies. The Government also requires support for conducting of tests and evaluations. The contractor's support to activities shall be related to USINDOPACOM operations as well as the advancement of new or existing capabilities in the fields of operational energy, cyber operations, electronic operations, operational resiliency sensors, aircraft, surface vessels, subsurface vessels, and other capabilities. USINDOPACOM's mission supports requirements for the Camp H.M. Smith Headquarters (HQ) location and its PACAF, USPACFLT, USARPAC, MARFORPAC, and Special Operations Command Pacific (SOPAC) partners throughout the AOR.

The contractor will be required to perform using technical capability, demonstrating an ability to contribute to organizational agility with innovative solution sets in an extremely collaborative national security environment. Providing support to USINDOPACOM will require an understanding of DoD capabilities, industry capabilities, and joint doctrine while leveraging new

ideas and/or new technologies. The resultant solution set(s) could include new Tactics, Techniques, and Procedures (TTPs), Concept of Operations (CONOPS), operational utility experimentations, white papers, and technical/policy recommendations. These deliverables may be provided to levels as high as the Office of the Secretary of Defense. Typically, these solution sets are non-material, but material solutions are also possible.

C.1.2 AGENCY MISSION

USINDOPACOM protects and defends, in concert with other U.S. Government agencies, the territory of the U.S., its people, and its interests. With allies and partners, USINDOPACOM is committed to enhancing stability in the Asia-Pacific region by promoting security cooperation, encouraging peaceful development, responding to contingencies, deterring aggression, and, when necessary, fighting to win. This approach is based on partnership, presence, and military readiness.

Within USINDOPACOM, the Directorate of Requirements and Resources (J8), and the Operations Directorate (J3) serve the Commander by providing support for evaluating and developing force structure requirements and establishing aggressive Mission Assurance (MA) initiatives to enhance the Commander's ability to accomplish the mission. These directorates also provide USINDOPACOM rapid warfighting capabilities using innovative planning, analysis, solutions, and emerging technologies to address the Command's Priorities and Lines of Operation.

C.2 SCOPE

The scope of this TO is to provide USINDOPACOM, USINDOPACOM Joint Staff organizations, its service component commands, sub unified commands, sub component commands, and its strategic and operational partners, professional services in the task areas described in detail in **Section C.5**. A list of strategic and operational partners is located in **Section J, Attachment Y**. The contractor shall provide USINDOPACOM with planning, analysis, innovation, and concept testing to develop new capabilities to meet operational challenges. The contractor shall provide critical professional services to identify game-changing technologies and then help the Government develop USINDOPACOM capabilities.

While the Government anticipates the primary place of performance to be at Camp H.M. Smith, Oahu, HI, support services may also be performed at locations within the USINDOPACOM AOR or Area of Interest (AOI) (locations of interest or concern to the Commander (CDR) USINDOPACOM may be outside of the AOR). All requests for support in locations other than those stated above will be communicated to the contractor by the Federal Systems Integration and Management Center (FEDSIM) Contracting Officer's Representative (COR).

Some travel to support mission requirements in the Contiguous United States (CONUS) and Outside Contiguous United States (OCONUS), including locations outside of the USINDOPACOM AOR and AOI may also be necessary. Such travel would be to support exercises, conferences, or other joint and major command events.

C.3 CURRENT ENVIRONMENT

In order for USINDOPACOM to facilitate rapid warfighting capabilities using innovative solutions and emerging technologies that address the Command's Priorities and Lines of

SECTION C – PERFORMANCE WORK STATEMENT

Operation, the J8 Directorate maintains close interaction with other “J” directorates within the USINDOPACOM Command and may partner with them to fulfill requirements within the scope of this Performance Work Statement (PWS).

At any given time, there are likely over 50 active projects that may be requested by nearly 20 USINDOPACOM subordinate or partner organizations. These innovation efforts associated with these projects meet the needs of the warfighter through a rapid, cost effective, non-traditional, and realistic approach to solutions. Efforts are operationally focused, realistic, and statistically defensible whole solution sets involving technology, TTPs, CONOPS, as well as policy or training recommendations. Projects will also include interaction, collaboration, and/or cooperation with Indo-Pacific Theater allies.

The J81, the lead division for this requirement, has several organizational elements that are as follows: the Cyber War Innovation Center (CWIC), the Strategic Capabilities Office Pacific (SCO-P), the Army Test and Evaluation Command (ATEC) Liaison Office (LNO), electronic operations, Intelligence, Surveillance and Reconnaissance (ISR) targeting, Energy Sustainment, and the Rapid Capabilities Cell (RCC).

USINDOPACOM priorities are heavily contingent on activity that is primarily driven by war, terrorism, natural disasters, and/or threat situations and can change depending on the nature of the situation. As global dynamics shift and U.S. priorities within the USINDOPACOM AOR shift, the Government will require the contractor to be responsive, agile, and flexible to adapt to these changing circumstances.

Currently, performance on any of the active projects map to more than one of the task areas in **Section C.5** below and require similar or the same support services.

C.4 OBJECTIVE

The objective of this TO is to provide agile, innovative, and cost-effective support services tailored to meet the demands associated with a dynamic global threat and geo-political security environment in order to ensure that USINDOPACOM, its service component commands, and its strategic and operational partners are properly postured to meet mission critical requirements. The Government desires that contractor support provide a “center of excellence” approach, taking advantage of the best technologies, methodologies, and synergies across similar DoD efforts, to provide the warfighter with the best solutions possible. This Task Order will not be for the purchase of weapons or for the use of weapon systems, other than as it relates to the development, testing and analysis support described in **Section C**.

C.5 TASKS

The following tasks are intended to cover the scope of work that USINDOPACOM anticipates for Pacific Command (PACOM) Innovation and Experimentation Support Services (PIESS). Specific work products within the work scope may shift based on mission partner needs. Specific work products will be further defined by USINDOPACOM subordinates or partners through a PIESS TDL.

There are four major task areas in this PWS:

- a. Task 1: Provide Program Management and Support
- b. Task 2: Planning and Analysis Support

- c. Task 3: Innovation Development and Testing Support
- d. Task 4: Cyber Capability Support

C.5.1 TASK 1 – PROVIDE PROGRAM MANAGEMENT AND SUPPORT

The contractor shall provide program management support under this TO. This includes the management and oversight of all activities performed by contractor personnel, including subcontractors, to satisfy the requirements identified in this PWS.

The contractor will also provide support for the operation of Government secure facilities at appropriate classification levels required for the test, evaluation, and training support under this TO. Additionally, the contractor shall support the management of the security program.

C.5.1.1 SUBTASK 1 – ACCOUNTING FOR CONTRACTOR MANPOWER REPORTING

The contractor shall report all contractor labor hours (including subcontractor labor hours) required for performance of services provided under this TO for USINDOPOACOM via Enterprise Contractor Manpower Reporting Application (ECMRA), which is a secure data collection site. The contractor shall completely fill in all required data fields using the following web address: <http://www.ecmra.mil/>.

Reporting inputs will be for the labor that was executed during the Government Fiscal Year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year. Contractors may direct questions to the support desk at: <http://www.ecmra.mil/>.

Contractors may use Extensible Markup Language (XML) data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure website without the need for separate data entries for each required data element at the website. The specific formats for the XML direct transfer may be downloaded from the web.

C.5.1.2 SUBTASK 2 – COORDINATE A PROJECT KICK-OFF MEETING

The contractor shall schedule, coordinate, and host a Project Kick-Off Meeting at the location approved by the Government (**Section F, Deliverable 02**). The meeting will provide an introduction between the contractor personnel and Government personnel who will be involved with the TO. The meeting will provide the opportunity to discuss technical, management, and security issues, and travel authorization and reporting procedures. At a minimum, the attendees shall include Key contractor Personnel, representatives from the directorates, other relevant Government personnel, and the FEDSIM COR.

At least three days prior to the Kick-Off Meeting, the contractor shall provide a Kick-Off Meeting Agenda (**Section F, Deliverable 01**) for review and approval by the FEDSIM COR and the USINDOPACOM Technical Point of Contact (TPOC) prior to finalizing. The agenda shall include, at a minimum, the following topics/deliverables:

- a. POCs for all parties.
- b. Personnel discussion (i.e., roles and responsibilities and lines of communication between contractor and Government).

- c. Staffing Plan and status.
- d. Updated Transition-In Plan (**Section F, Deliverable 14**) and discussion.
- e. Security discussion and requirements (i.e., building access, badges, Common Access Cards (CACs)).
- f. Financial Tracking and Invoicing requirements.
- g. Baseline Quality Management Plan (QMP).

The Government will provide the contractor with the number of Government participants for the Kick-Off Meeting, and the contractor shall provide sufficient copies of the presentation for all present.

The contractor shall draft and provide a Kick-Off Meeting Minutes Report (**Section F, Deliverable 03**) documenting the Kick-Off Meeting discussion and capturing any action items.

C.5.1.3 SUBTASK 3 – PREPARE A MONTHLY STATUS REPORT (MSR)

The contractor shall develop and provide an MSR (**Section J, Attachment F**) (**Section F, Deliverable 04**). Cost reporting data (items g and h below) shall be provided in written form and as electronic data in Microsoft (MS) Excel spreadsheet formats. The MSR shall not contain classified information.

The MSR shall include the following:

- a. Activities during reporting period, by TDL or task as appropriate (include on-going activities, new activities, and activities completed, and progress to date on all above mentioned activities). Each section shall start with a brief description of the task or TDL objective as appropriate.
- b. Problems and corrective actions taken. Also include issues or concerns and proposed resolutions to address them.
- c. Personnel gains, losses, and status (security clearance, etc.).
- d. Government actions required.
- e. Schedule (show major tasks, milestones, and deliverables; planned and actual start and completion dates for each).
- f. Summary of trips taken, conferences attended, etc. (attach Trip Reports to the MSR for reporting period).
- g. Changes to the Project Management Plan (PMP).
- h. Financial status:
 - 1. Costs incurred at the TDL and CLIN level broken out by prime contractor, subcontractor(s), and teaming partner(s) through the previous month.
 - 2. Costs invoiced at the TDL and CLIN level broken out by prime contractor, subcontractor(s), and teaming partner(s) through the previous month.
 - 3. Projected costs to be incurred at the TDL and CLIN level broken out by prime contractor and subcontractor(s) for the current month, and by month for the remainder of the option period or end date of the TDL.

C.5.1.4 SUBTASK 4 – FINANCIAL FORECASTING AND TRACKING

The Government anticipates that funding will be received from multiple sources and financial data will need to be tracked at the Military Interdepartmental Purchase Request (MIPR), funding source, or TDL level. The contractor shall work with the FEDSIM COR and USINDOPACOM TPOC to determine, for each task or project, the level of financial tracking required. For each task or TDL, the contractor shall create a Financial Forecast (**Section F, Deliverable 20**) for each TO period of performance that details the anticipated monthly costs by CLIN. The contractor shall set the baseline at the start of each TO period of performance and update the forecasts monthly, at a minimum, as costs are incurred or as requirements change.

The contractor shall present a draft proposed format for the financial forecast at the TO Kick-Off meeting for FEDSIM COR and USINDOPACOM TPOC approval and shall utilize the Government-approved format.

C.5.1.5 SUBTASK 5 – CONVENE TECHNICAL STATUS MEETINGS

The contractor Program Manager (PM) shall convene a monthly Technical Status Meeting with the USINDOPACOM TPOC, FEDSIM COR, and other Government stakeholders (**Section F, Deliverable 05**). The purpose of this meeting is to ensure all stakeholders are informed of the monthly activities and MSR, provide opportunities to identify other activities and establish priorities, and coordinate resolution of identified problems or opportunities. The contractor PM shall provide minutes of these meetings, including attendance, issues discussed, decisions made, and action items assigned, to the FEDSIM COR (**Section F, Deliverable 06**).

C.5.1.6 SUBTASK 6 – PREPARE A PROJECT MANAGEMENT PLAN (PMP)

The contractor shall document all support requirements in a PMP. The contractor shall provide the Government with a draft PMP (**Section F, Deliverable 07**) on which the Government will make comments. The final PMP (**Section F, Deliverable 08**) shall incorporate the Government's comments.

The PMP shall:

- a. Describe the proposed management approach.
- b. Contain detailed Standard Operating Procedures (SOPs) for all tasks.
- c. Include milestones, tasks, and subtasks required in this TO.
- d. Provide for an overall Work Breakdown Structure (WBS) with a minimum of three levels and associated responsibilities and partnerships between or among Government organizations.
 1. The WBS shall identify all technical activities at a level of detail sufficient for the contractor to manage the work.
 2. Each WBS element shall be accompanied by a description and expected result(s).
 3. Each WBS element shall include an estimate of the Level of Effort (LOE) required by labor category and associated cost.
- e. Describe in detail the contractor's approach to risk management under this TO.
- f. Describe in detail the contractor's approach to communications, including processes, procedures, communication approach, and other rules of engagement between the contractor and the Government.

- g. Include the contractor's Baseline QMP.

C.5.1.7 SUBTASK 7 – UPDATE THE PMP

The PMP is an evolutionary document that shall be updated annually at a minimum (**Section F, Deliverable 09**). The contractor shall work from the latest Government-approved version of the PMP.

C.5.1.8 SUBTASK 8 – CONDUCT TDL KICK-OFF MEETINGS

Following Government approval of the TDL, the contractor shall schedule, coordinate, and host a TDL Kick-Off Meeting (**Section F, Deliverable 21**) for each TDL at the location approved by the Government. At the Government's discretion, the TDL Kick-Off Meeting may be held virtually. The meeting shall provide an introduction between the contractor personnel and Government personnel who will be involved with the project. The meeting will provide the opportunity to discuss technical, management, and security issues, as well as travel authorization and reporting procedures required for the project. At a minimum, the attendees shall include contractor Key Personnel, representatives from USINDOPACOM, other relevant Government personnel, the USINDOPACOM TPOC, and the FEDSIM COR.

Prior to the TDL Kick-Off Meeting, the contractor shall provide a TDL Kick-Off Meeting Agenda (**Section F, Deliverable 22**) for review and approval by the USINDOPACOM TPOC prior to finalizing. The agenda shall include, subject to guidance from the USINDOPACOM TPOC, the following topics/deliverables:

- a. POCs for all parties.
- b. Draft TDL Plan in accordance with **Section C.5.1.9 (Section F, Deliverable 23)**.

The Government will provide the contractor with the number of Government participants for each TDL Kick-Off Meeting and the contractor shall provide sufficient copies of the presentation for all present.

The contractor shall draft and provide TDL Kick-Off Meeting Minutes (**Section F, Deliverable 03**) documenting the Project Kick-Off Request Meeting discussion and capturing any action items.

C.5.1.9 SUBTASK 9 – PROVIDE PROJECT MANAGEMENT SUPPORT

The contractor shall provide project management support for each TDL under this TO. The USINDOPACOM TPOC and FEDSIM COR will communicate all requests for project support to the contractor. The contractor shall prepare a TDL Plan for each project as directed by the USINDOPACOM TPOC and FEDSIM COR. The contractor shall tailor the requirements for each TDL Plan to match the complexity of the project requirements. The contractor shall provide the Government with a Draft TDL Plan (**Section F, Deliverable 23**) at the TDL Kick-Off Meeting. The Final TDL Plan (**Section F, Deliverable 24**) shall incorporate the Government's comments. The contractor shall provide support in accordance with the PMP and the latest Government approved TDL Plan. The TDL Plan is an evolutionary document that shall be updated by the contractor as elements of the project change.

At a minimum, the TDL Plan shall include the following:

SECTION C – PERFORMANCE WORK STATEMENT

- a. Implementation plan/strategy which defines the project specifications, structure, requirements, activities, conditions, risks, mitigations, and schedule from project inception through project closeout. All deliverables and project milestones shall be detailed with clear, unambiguous targets.
- b. A WBS may be required for some projects, the USINDOPACOM TPOC and FEDSIM COR will specify which project(s) require a WBS and the required WBS level. The WBS shall have the appropriate amount of detail in order to provide clear instructions to the personnel supporting the project and shall include a detailed and reasonable estimate of the total time and effort involved.
- c. Project staffing and resource profile.
- d. Travel and security considerations.
- e. Communication and roles and responsibilities framework to ensure both the contractor and the Government are able to efficiently and effectively monitor progress and receive early warning of potential issues.
- f. Sequence diagrams and/or a Program Evaluation and Review Technique (PERT) chart (if applicable).
- g. Detailed project cost estimate [Rough Order of Magnitude (ROM)] broken out by CLIN.

The contractor shall notify the USINDOPACOM TPOC and FEDSIM COR once the work required under a TDL is complete. Once the USINDOPACOM and FEDSIM COR have concurred that the work required under the TDL is complete, the contractor shall conduct a post-project review and provide the Government with an After Action Report (**Section F, Deliverable 25**) that, at a minimum, outlines the following:

- a. Success factors and if/how they were met.
- b. Project transition considerations.
- c. Financial and schedule data including cost and scheduled milestones as compared to baseline information provided at the TDL Kick-Off Meeting.
- d. Recommendations for future consideration.
- e. Lessons learned.

C.5.1.10 SUBTASK 10 – PREPARE TRIP REPORTS

The Government will identify the need for a Trip Report when the request for travel is submitted (**Section F, Deliverable 10**). The contractor shall keep a summary of all long-distance travel including, but not limited to, the name of the employee, location of travel, duration of trip, and Point of Contact (POC) at travel location. Trip reports shall also contain Government approval authority, total cost of the trip, a detailed description of the purpose of the trip, and any knowledge gained. At a minimum, trip reports shall be prepared with the information provided in **Section J, Attachment G**.

C.5.1.11 SUBTASK 11 – PROVIDE QUALITY MANAGEMENT

The contractor shall identify and implement its approach for providing and ensuring quality throughout its solution to meet the requirements of the TO. The contractor's QMP shall describe the application of the appropriate methodology (i.e., quality control and/or quality assurance) for

accomplishing TO performance expectations and objectives. The QMP shall describe how the appropriate methodology integrates with the Government's requirements.

The contractor shall provide a Baseline QMP (**Section F, Deliverable 11**) and then provide a final baseline QMP as required in Section F (**Section F, Deliverable 12**). The contractor shall periodically update the QMP, as required in Section F (**Section F, Deliverable 13**), as changes in program processes are identified.

C.5.1.12 SUBTASK 12 – TRANSITION-IN

The contractor shall provide an update to the Draft Transition-In Plan (**Section F, Deliverable 14**) provided with its proposal and provide a final Transition-In Plan (**Section F, Deliverable 15**) as required in Section F. The contractor shall ensure that there will be minimum service disruption to vital Government business and no service degradation during and after transition. The contractor shall implement its Transition-In Plan No Later Than (NLT) ten calendar days after award, and all transition activities shall be completed 30 calendar days after project start.

C.5.1.13 SUBTASK 13 – TRANSITION-OUT

The contractor shall provide transition-out support when required by the Government. The Transition-Out Plan shall facilitate the accomplishment of a seamless transition from the incumbent to incoming contractor/Government personnel at the expiration of the TO. The contractor shall provide a draft Transition-Out Plan within six months of Project Start (PS) (**Section F, Deliverable 16**). The Government will work with the contractor to finalize the Transition-Out Plan (**Section F, Deliverable 17**) in accordance with **Section E**. At a minimum, this Transition-Out Plan shall be reviewed and updated on an annual basis (**Section F, Deliverable 18**). Additionally, the Transition-Out Plan shall be reviewed and updated quarterly during the final Option Period (**Section F, Deliverable 18**).

In the Transition-Out Plan, the contractor shall identify how it will coordinate with the incoming contractor and/or Government personnel to transfer knowledge regarding the following:

- a. Project management processes.
- b. POCs.
- c. Location of technical and project management documentation.
- d. Status of ongoing technical initiatives.
- e. Appropriate contractor-to-contractor coordination to ensure a seamless transition.
- f. Transition of Key Personnel.
- g. Schedules and milestones.
- h. Actions required of the Government.

The contractor shall also establish and maintain effective communication with the incoming contractor/Government personnel for the period of the transition via weekly status meetings or as often as necessary to ensure a seamless transition-out.

The contractor shall implement its Transition-Out Plan NLT six months prior to expiration of the TO.

C.5.1.14 SUBTASK 14 – SENSITIVE COMPARTMENTED INFORMATION FACILITIES (SCIF) AND SECURITY SUPPORT

The contractor shall provide technical expertise to perform secure facility analysis, plans, studies and reports (**Section F, Deliverable 26**) to manage and modify secure facilities for related experimentation, operations, and training. The contractor shall also operate Government facilities at appropriate classification levels required for test, evaluation, and training support. Additionally, the contractor shall support the operation of USINDOPACOM's security program including, but not limited to, processing visitor requests, computer access requests, visitor escort, and any other security program tasks needed to support specific efforts required in a TDL.

C.5.1.15 SUBTASK 15 – DOCUMENT MANAGEMENT AND WRITTEN PRODUCT SUPPORT

The contractor shall provide technical expertise, software, and hardware to ensure that deliverables, other data, or information related to work under **Section C.5** are converted into desired formats and stored electronically for easy dissemination among stakeholders. The end product may be digital, physical copy, or both. The contractor shall provide technical writing and editing when necessary. The contractor shall also implement or develop professional style guidelines, and finalized written products (**Section F, Deliverable 27**) when required by the task. Examples of this type of work would include formatting information into an electronic handbook, meeting the U.S. Government Printing Office (GPO) printing requirements, or compiling data into a hardcopy report suitable for distribution at a conference. Electronic documents shall be Microsoft (MS) Office compatible and able to be displayed on a Government computer workstation, using software generally available for Government use. The contractor shall curate document storage so that information is stored logically and is readily available to all appropriate stakeholders for efficient retrieval and use in research. Use of specialized software or hardware may be specified in associated TDLs.

C.5.2 TASK 2 – PLANNING AND ANALYSIS SUPPORT

The contractor shall provide input and overall planning support for critical programs. The contractor shall support USINDOPACOM in overall Innovation and Experimentation program coordination and integration with other DoD organizations and relevant Government agencies. Support to Government operational and program managers will require the contractor to write reports and information papers, design and evaluate various doctrine, military unit training programs, and analyze operational data. Additionally, the contractor shall develop related CONOPS, roadmaps, TTPs, operational architectures, strategic, implementation, and action plans. These activities will be focused in critical areas outlined in the subtasks below. The contractor's analysis and deliverables shall include structured studies, considering national security policy, military strategy, defense transformation and planning guidance, intelligence estimates, threat projections, and vulnerability assessments.

C.5.2.1 SUBTASK 1 – STRATEGIC CAPABILITIES OFFICE – PACIFIC (SCO-P) SUPPORT

The contractor shall provide technical expertise to support the USINDOPACOM SCO-P. The contractor shall provide analysis and develop SCO-P documentation (**Section F, Deliverable 28**) to provide strategic insight into adversary systems and decision making processes. The

contractor shall collect and communicate operational requirements and capability shortfalls associated with the U.S., partner nations, and potential adversaries. Furthermore, the contractor shall use operationally representative environments to assess strategic, operational, and tactical effectiveness of material and non-material solutions provided by the SCO-P.

C.5.2.2 SUBTASK 2 – INNOVATIVE SOLUTION ANALYSIS

The contractor shall propose innovative approaches to mitigate warfighter capability gaps that affect the ability of the existing system(s) to meet operational requirements and expected future needs. The contractor shall provide technical expertise to study, analyze, and report on the warfighters' requirements and capability gaps, and how these are addressed by proposed material and/or non-material solutions. Capability gaps may be determined based on known or emerging intelligence planning, collection, fusion, analysis, and dissemination. The contractor's recommended solution may be based on technologies, industry best practices, processes, or a combination of these elements. The contractor's support shall also include providing innovative solution documentation (**Section F, Deliverable 29**) including plans and reports, and documenting corresponding contractual, resource, technical, diplomatic, logistical, and transportation needs to rapidly deploy these solutions. The contractor shall also be required to assess the military utility of each Government approved solution and document results (**Section F, Deliverable 30**). Furthermore, the contractor shall coordinate with Government stakeholders, as required, to facilitate coordination of mitigation solutions across Government organizations. Specific areas of support under this subtask are below:

- a. **C4ISR Solutions and Operational and Functional Testing:** The contractor shall develop and recommend innovative approaches to address capability gaps with C4ISR initiatives. The contractor shall consider known or emerging technologies, capabilities, intelligence analysis, TTPs, the Integrated Priority List (IPL), as well as strategic and operational plans. The contractor shall develop operational and functional testing metrics for material and non-material innovative mitigating strategies for these solutions. These tests could be integrated with or in solution areas from any of the subtasks listed in **Sections C.5.2, C.5.3, and C.5.4**. While the contractor shall be performing the testing and assessment of results, Government test authorities will be overall responsible for the tests. The contractor shall support the Government with planning support and documentation including test plans, test setup and execution, integrated assessment plans, and test results (**Section F, Deliverable 31**).
- b. **Rapid Capabilities Cell (RCC):** In response to immediate threats, crisis, or urgent needs, the contractor shall provide support to facilitate planning and implementation of the RCC, to recommend immediate solutions. In addition to solution planning and implementation documentation, the contractor shall also assist in assessing and reporting on the performance of fielded RCC capabilities for related events.
- c. **Maritime Warfare:** The contractor shall support efforts to develop potential solutions to increase mission effectiveness in Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW), Under-Sea Warfare (USW), and Mine Warfare Sensor Research, Experimentation, and Assessment. The contractor shall document recommendations and assessment results (**Section F, Deliverable 41**).
- d. **Intelligence Studies:** The contractor shall perform studies based on intelligence in fields such as ISR, Domain Awareness, Cyber, Target Acquisition and Tracking, Weapon

Guidance and Control, Counter Mine or Improvised Explosive Device (IED), Chemical, Biological and Nuclear (CBRN), or other Sensor Comparative Analyses. The contractor shall provide the results of these studies in a report (**Section F, Deliverable 63**).

- e. **Sensing Technologies:** The contractor shall perform analysis of sensing technologies, including multi-domain tipping and cueing, Infrared or Electro-Optical systems (IR/EO), radar, lasers, laser sensors, threat warning, cyber intrusion sensing, CBRN, acoustic or seismic and magnetic anomaly sensing, and the processing and fusion of multiple inputs and their countermeasures and counter-countermeasures. Identification of potential solutions shall include research of the existing threats, actual and planned sensing strategies, and opponent countermeasure's capabilities. Assessment shall entail study of and access to advanced, fifth generation fighter aircraft performance capabilities, advanced U.S. Navy, U.S. Air Force, and U.S. Army weapon systems, advanced missile multi-spectral seeker head performance, and integrated Command and Control (C2) with sensor-network-shooter architectures.
- f. **Integrated Air and Missile Defense (IAMD):** The contractor shall conduct survivability and lethality analysis of capabilities that enhance the organization of theater missile defense MD capacity that is consistent with Phased Adaptive Approach (PAA) refinements to the USINDOPACOM MD capabilities growth strategy. The contractor shall conduct analysis of key gaps in strategic MD elements and processes that include threat assessments and emerging concepts, C2, missile warning, protection, force option and capability realignment, training, transformation roadmaps, and technology transformation programs. This analysis supporting concept development and validation is essential to determine whether USINDOPACOM MD plans and programs are consistent with national policy guidance, and integrated with key MD agencies, the international community, and partner stakeholders. The contractor shall conduct war gaming analysis to validate and make recommendations to current plans and processes that will enhance the development of USINDOPACOM inputs to the Joint Regional Operations Center (JROC) for Joint Warfighting Capability Assessments (JWCA), Planning, Programming, the command's IPL, and various IAMD Capstone Requirements Documents (CRD), Mission Needs Statements (MNS) and Operational Requirements Documents (ORD) (**Section F, Deliverable 32**).

C.5.2.3 SUBTASK 3 – INFORMATION OPERATIONS (IO)SUPPORT

The contractor shall support IO by providing scientific and technical expert analysis for USINDOPACOM IO programs, conducting research, analysis, planning, coordination, and providing quantitative reports for decision papers to determine future activities, approvals, and resourcing. The contractor shall also support ongoing IO programs in the form of providing support for employment, supporting strategic communications planning, and providing documentation of analysis and recommended updates to plans. This support shall include:

- a. **Operation Reliant Voice (ORV):** Contractor support shall primarily be focused on support for ORV. ORV is significant to USINDOPACOM in achieving program planning objectives and operational goals. ORV focus is on measuring and assessing activities throughout the USINDOPACOM AOR. During USINDOPACOM exercises, to include post-event assessments, the contractor shall provide exercise documentation (**Section F, Deliverable 33**), measure each activity to analyze whether the activity succeeds in its mission; and

whether the Operations, Actions and Activities (OAA) positively or negatively influence any of USINDOPACOM's Theater Campaign Plan objectives. The Government will use this analysis to evaluate new Courses of Action (COAs) and strategies prior to deploying them to an operational environment. For example, the contractor measuring the COA outcomes against simulated threats, such as Electronic Attack (EA) on critical infrastructure and then providing recommendations on how USINDOPACOM would operate with a subsequent reduced capability. Through this process, the contractor shall quantify the impact of ORV activities on USINDOPACOM and Subordinate Command Theater Campaign Plan objectives.

- b. **Military Information Support Operations (MISO) and Military Deception (MILDEC):** The contractor shall support planning for MISO and MILDEC and support execution of the Rewards Program activity. The contractor shall integrate these capabilities into the Geographic Combatant Command and Component Theater Campaign plans, war-plans, counter terrorism plans, Force Protection (FP) plans, and trans-national crime operations, contingencies, and planning. The contractor shall facilitate integration of capabilities and provide support for the employment of MISO, MILDEC, and related capabilities and activities, inclusive of joint conventional and special operations planning efforts and effects assessments and original source information (**Section F, Deliverable 53**). The contractor shall draft for Government review, annual reports that articulate the USINDOPACOM position on these capabilities into applicable congressionally mandated annual MISO and MILDEC (**Section F, Deliverable 34**) reports and data to House and Senate oversight committees.

C.5.2.4 SUBTASK 4 – PLAN, PROCESS, AND PROGRAMSUPPORT

The contractor shall evaluate current planning and operations processes. The analysis shall include identifying, defining, refining, and documenting operations as they are conducted, including contingency planning, crisis response operations, and emergencies. The contractor shall evaluate and analyze threats, such as natural disasters or transnational terrorist events, then provide the basis for survivability analysis, assessments, and propose mitigation techniques, technologies, and/or procedures. The contractor shall conduct analysis of best practices and procedures, and provide data that could be used to mitigate loss of MA during crisis events. The objective of this subtask is to enhance the DoD and USINDOPACOM's ability to achieve mission survivability, efficiency, and effectiveness during an exercise or crisis event and consequently increase the level of MA. The contractor shall document recommended updates to plans, CONOPS, TTPs, and processes in program documentation (**Section F, Deliverable 35**). Specific areas of support under this subtask are:

- a. **Joint Operations Center (JOC):** The contractor shall evaluate the efficacy and impact of steady state, exercise, contingency, and emergent operations for the USINDOPACOM JOC. The contractor shall also provide knowledge management support that includes dissemination, stakeholder coordination, follow-up task status tracking, production, editing, storage, and retrieval for documents and data related to work performed under this and other tasks performed in **Section C.5**.
- b. **Mission Assurance (MA):** The contractor shall synchronize and integrate vulnerabilities and interdependencies from the USINDOPACOM designated protection programs. Contractor analysis shall prioritize joint warfighting functions of C2, movement and maneuver, sustainment, intelligence and protection, and align cross staff protection

program efforts. The contractor shall focus on mitigating risk to C2 and establishing a robust passive defense. The contractor shall assist the Government with the implementation and execution of an MA process that considers sharing and integrating protection program information, informs agile decision-making in a global context, reinforces resource investments aligned to warfighter needs, and supports the USINDOPACOM ability to deliver a decisive force when needed.

- c. **Critical Infrastructure Protection (CIP):** The contractor shall analyze and identify methods to streamline processes related to operational and survivability analysis, and information management in the examination of CIP issues and mission activities in the USINDOPACOM AOR. The contractor's analysis shall enhance, accelerate, and operationalize USINDOPACOM CIP of overall DoD, national CIP, and Homeland Defense (HD) strategies and objectives. Products and reports shall provide recommendations for the mitigation of threats and hazards to USINDOPACOM missions, facilities, and people, including kinetic threats, non-kinetic threats, natural disasters, and man-made hazards.
- d. **Force Protection (FP) and Crisis Action:** Contractor support shall be used to enhance the effectiveness of FP programs and diminish the negative effects of potential and actual threats, allowing USINDOPACOM the most optimal operating environment possible. The contractor shall conduct FP analysis to determine whether USINDOPACOM forces can carry out their missions while being aware of risks and employing effective countermeasures. Contractor efforts shall incorporate tasks impacting operations, crisis action planning, assessments, plans, training, and exercises. The contractor shall analyze threats and hazards to USINDOPACOM missions, facilities, and people.
- e. **Targeting and Joint Fires:** The contractor shall analyze current targeting and joint fires processes and then develop recommended innovative approaches for TTPs, to optimize efficiency, speed, and effectiveness. The contractor shall assist in analyzing all aspects of the strategic targeting process, including policy, strategic target selection procedures, and targeting guidance for the employment of operational forces and unmanned systems. Additionally, the contractor shall support operational planning by conducting research to identify and integrate lethal and non-lethal fires into the USINDOPACOM targeting process. The contractor shall also evaluate current operations plans, to identify and make recommendations regarding the mitigation of capability gaps, considering operational performance metrics.
- f. **Theater Campaign Plan/Order:** The contractor shall provide analysis support, employing measures of performance and effectiveness, to provide a determination of whether the USINDOPACOM overall Theater Campaign Plan/Order is being achieved. The contractor shall include analysis of the most current and emerging national level guidance, including the Guidance for Employment of the Force (GEF), the Joint Strategic Capabilities Plan (JSCP), the current National Level Strategic Guidance document, Global Campaign Plans, Functional, and other Combatant Component Campaign Plans. The contractor shall use comparative analysis techniques to measure the national level guidance against USINDOPACOM guidance. This comparative analysis shall consider the current or draft USINDOPACOM Theater Campaign Plan, operational and functional contingency plans, the USINDOPACOM Theater Strategy, and the conceptual Theater Security Cooperation Plan. The contractor shall also conduct Strategic Communication analyses, with the goal of improving HQ USINDOPACOM's capabilities, to proactively

posture itself in executing its mission and roles. The contractor shall conduct survivability analyses for use in HQ USINDOPACOM's adaptive planning system. This will enhance the rapid development, collaboration, distribution, and revision of military operations plans, increasing the probability that HQ USINDOPACOM efforts are capable of addressing emerging adversarial threats and are synchronized with other U.S. forces within the Indo-Pacific region. The contractor shall conduct analysis from the perspective of identifying gaps and connections with respect to MA and threats to achievement of goals and strategic objectives of USINDOPACOM and its subordinate organizations. Through this effort, the contractor shall assist the Government with validating policies, plans, and messaging to facilitate enhancing multilateral cooperation.

- g. **Continuity of Operations (COOP) Planning and Common Operational Picture (COP):** The contractor shall develop, enhance, or update for Government approval, comprehensive, sustainable COOP Plans and COP documentation (**Section F, Deliverable 36**) and information products. The contractor shall complete a comprehensive risk assessment on assigned areas that uses an objective methodology to identify threats and hazards and proposes countermeasures. The contractor shall also craft SOPs for identifying Mission Essential Functions (MEF) and Primary MEFs (**Section F, Deliverable 37**) for areas, functions, and locations directed by the Government. The contractor shall further provide support by developing a continuity strategy recommendation along with a feasible, executable COOP Plan for defined areas and functions, to restore MEF within 12 hours at an alternate site, and then sustain MEF at the alternate site for as long as 30 days (**Section F, Deliverable 38**). The contractor shall synchronize the continuity program with other MA efforts such as crisis communications, emergency management, CIP, and AT programs. Based upon the results of the continuity strategy analysis and recommendations, the contractor shall continually implement and/or update the COOP Plan, including revisions of training elements. The contractor shall also create COP documentation and information products to respond to events in the USINDOPACOM AOI. The contractor shall then assist the Government by providing COOP Plan awareness and initiative updates to the USINDOPACOM HQ and subordinate commands, so that up-to-date, relevant COOP Plan elements can be included in command exercises or actual operations.
- h. **Special Projects and Program Support:** The contractor shall perform analysis, documentation, data management, and coordination for programs that are driven by the dynamic nature of the USINDOPACOM AOI or DoD level programs. This would also include established programs such Global Force Management (GFM), Defense Readiness Reporting System (DRSS), Joint Operational Planning and Execution System (JOPES), and other programs that may develop during the term of this TO. These tasks and deliverables will be defined by TDL (**Section F, Deliverable 39**).
- i. **Logistics Planning and Analysis:** The contractor shall provide logistics planners to analyze current plans, make recommendations, coordinate stakeholder input, respond to information requests and then document results (**Section F, Deliverable 40**).

C.5.2.5 SUBTASK 5 – OPERATIONAL CONCEPT, RESEARCH, AND APPLICATION ANALYSIS SUPPORT

The contractor shall conduct operational concept, research, and application analysis of the production and implementation of comprehensive, long-term, fully integrated DoD strategies for

the utilization of innovative approaches for national security and theater peace and stability. The contractor shall conduct detailed assessments of the policy and program impacts of plans and concepts, and shall suggest alternate COAs to mitigate identified vulnerabilities. The contractor shall develop briefings or written appraisals (or both), summarizing key findings and providing in operational concept documentation (**Section F, Deliverable 42**). The contractor shall include structured studies and analyses by considering national security policy and military strategy, including defense transformation and planning guidance, intelligence estimates, threat projections, and vulnerability assessments. The contractor shall also use these analysis products to provide recommended content for Operational Plans, COAs, and CONOPS.

C.5.2.6 SUBTASK 6 – PLANNING EVENT SUPPORT

This contractor shall provide coordination support for planning events to help Government decision makers fully understand and consider the context, technical implications, potential secondary effects, or other issues as part of planning efforts in the areas within the scope of **Sections C.5.2, C.5.3, and C.5.4**. The contractor shall provide external stakeholder coordination, event project planning and milestones, event logistics, topic input, event documentation, and capture and documentation of event results (**Section F, Deliverable 43**). The contractor shall support various types of events including Configuration Control Board (CCB) functions, Technical Working Group (TWG) functions, and technology demonstrations and assessments.

C.5.2.7 SUBTASK 7 – PACIFIC ALL HAZARDS VISUALIZATION

The contractor shall provide support to enhance Commander USINDOPACOM's ability to fully manage the Plan, Direct, Monitor, and Assess (PDMA) cycle for the All Hazards Line of Effort. The contractor shall manage a visualization program that will apply data, information analysis tools and methods into a visualization solution (**Section F, Deliverable 44**) to obtain, evaluate, and share key information that supports the monitoring of existing/proposed Combatant Command (COCOM) and/or component activities within the All Hazard scope of interest. The contractor's support shall ensure the Government's capability planners, project managers, and decision makers will be able to:

- a. Gain a better understanding of regional conditions and hazards.
- b. Visualize the locations and relevant information of current and planned activities.
- c. Understand regional factors impacting the strategic value of activities.
- d. Promote the optimization of resources and DOD collaboration.

C.5.3 TASK 3 – INNOVATION DEVELOPMENT AND TESTING SUPPORT

The contractor shall support testing of innovative strategies, techniques, and technologies. Assessment activities shall be in an environment that replicates real-world use, to determine if a capability can fill a military need. The contractor shall also support test implementation, including technical planning for and insertion of capabilities into live, virtual, and constructed venues, including joint exercises, field tests, modeling, simulation, and tabletop war games. The contractor shall support Government test authorities with documentation, test planning and execution, integrated assessment plans, documentation of test results, and data mining to enhance understanding of results. These activities may be performed for areas covered in any tasks in **Sections C.5.2, C.5.3, and C.5.4**, but will also focus in critical areas in electronic operations, Environment Sustainment, and C4ISR.

The contractor shall develop operational and functional testing metrics for material and non-material innovative mitigating strategies in the area of C4ISR solutions. These tests could be integrated with, or in solution areas from any of the subtasks listed in **Sections C.5.2, C.5.3 and C.5.4**. While the contractor shall be performing the testing and assessment of results, Government test authorities will be overall responsible for the tests. The contractor shall support the Government with planning support and C4ISR test documentation (**Section F, Deliverable 62**) including; test plans, test setup and execution, integrated assessment plans, and test results.

C.5.3.1 SUBTASK 1 – MILITARY UTILITY ASSESSMENT (MUA)SUPPORT

The contractor shall coordinate and conduct MUAs, which will include operational demonstrations, operational utility assessments, and network risk assessments. The MUAs serve to determine if a capability defined in a TDL, can fill a military need through assessment in an operationally relevant environment. Implementation shall include technical planning for and insertion of capabilities into live, virtual, and constructed venues, including joint exercises, field tests, modeling, simulation, and tabletop war games. The contractor shall document MUA plans and evaluation results as part of this subtask (**Section F, Deliverable 45**).

C.5.3.2 SUBTASK 2 – ELECTRONIC OPERATIONS ANALYSIS SUPPORT

The contractor shall analyze, develop, and test concepts for known or emerging sensing or EC related capability gaps in support of operational and contingency plans. Identification of potential solutions shall include research of the existing electronic threats, actual and planned Electronic Protection (EP) strategies, and counter-threat capabilities. The contractor's testing and assessment shall include the study of and access to advanced, fifth generation fighter aircraft performance capabilities, advanced U.S. Navy, U.S. Air Force, U.S. Army, and U.S. Marine Corps weapon systems, legacy sensor systems, advanced missile multi-spectral seeker head performance, and integrated C2 with sensor-network-shooter architecture. The contractor shall document the activities for each analysis or development project in a task report that shall identify the nature of the task, the analyses performed, conclusions drawn, results obtained, and the significance of those results to the military sensing community (**Section F, Deliverable 46**). This support shall include performing studies to help make application of technologies more "joint" capable by increasing interoperability between DoD components and other strategic partners.

C.5.3.3 SUBTASK 3 – ADVANCED ELECTRONIC ANALYSIS SUPPORT

The contractor shall provide engineering, design, and technical solutions to support advanced sensor test, evaluation, and modernization efforts. Efforts shall span the selection, design, planning, execution, and assessment of electronic requirements. The objective of the support is to demonstrate and assess, under realistic conditions, technologies that affect radar sensor or other sensor system effectiveness. The contractor shall identify and assess potential radar sensor capabilities utilizing Digital Radio Frequency Memory (DRFM), other advanced Electronic Support (ES) technologies, and promising radar EP technologies. The contractor shall recommend specific tests that should be performed, including the TTPs for the tests (**Section F, Deliverable 47**). The contractor's recommendations shall be based on engineering analyses, threat technology assessments, likelihood of technology implementation in fielded systems, and implications for radar and sensor effectiveness. The contractor shall support planning and

execution of test events and exercises including identifying test assets, flight profiles, evaluation criteria, radar sensor modes, and EA system modes that will meet the objectives of the overall assessment. The contractor shall provide technical briefings related to radar and sensor systems, as needed, to clarify objectives and expected outcomes. Furthermore, the contractor shall provide documentation of the results analysis of all tests, evaluations, experiments, and exercises (**Section F, Deliverable 48**). The contractor shall compare the results to analytic and modeling predictions and resolve any support resolution of any discrepancies.

C.5.3.4 SUBTASK 4 – ENVIRONMENT SUSTAINMENT AND ENERGY EFFICIENCY SUPPORT

The contractor shall research opportunities to advance military capabilities through energy solutions with a focus on renewable energy, energy security, and energy conservation at both fixed installations and in deployed environments. The contractor shall support the development, planning, coordination, execution, and reporting of selected energy projects (**Section F, Deliverable 49**). Furthermore, the contractor shall plan and administer the assessments and test activities for energy projects, including documenting the results and presenting them to the Government (**Section F, Deliverable 50**). The contractor shall provide technical expertise and reporting in support of handling and disposing of waste streams affecting various DoD and other Governmental partner's goals and missions, including the evaluation of innovative methods for minimizing waste disposal impact on operational and environmental concerns. Assessment shall also include innovative methods for converting waste streams to resources benefiting the warfighter's mission (**Section F, Deliverable 51**).

C.5.3.5 SUBTASK 5 – DATA MINING, ARCHIVING, AND ANALYSIS SUPPORT

The contractor shall provide data integration and standardization services to enable the statistical analysis and interpretation of data collected from multiple sources during military exercises and experiments. The contractor shall provide analysis and visualization of collected data using various statistical measures and software tools, to prove or disprove assumptions and hypotheses (**Section F, Deliverable 52**). The contractor shall provide ancillary Information Technology (IT) engineering support for implementing, maintaining, and operating data analysis tools, data archiving, and retrieval of network and derived data.

C.5.4 TASK 4 – CYBER CAPABILITY SUPPORT

Contractor support in this task area shall provide technical professional services to assist Government initiatives to create flexible and resilient C4ISR architectures, protect critical cyber infrastructure, and evaluate cyber defensive capabilities. The contractor shall plan, recommend requirements, and design architectural models and prototypes to test the effectiveness of advanced tools and technologies for cyber defense capabilities. The contractor shall coordinate and manage participation by national laboratories, red teams, and other Government and academic scientific organizations to ensure thorough results. For new technologies, the contractor shall execute vulnerability assessments and penetration tests to assess usefulness in production systems. The contractor shall also provide readiness assessment testing and planning in areas such as system open architecture and cyber dynamic moving target defense. Finally, the contractor shall provide ancillary IT services to operate systems needed to support tasks under this task area.

C.5.4.1 SUBTASK 1 – CYBER-DEFENSE TESTING SUPPORT

The contractor shall provide technical expertise in support of DoD and Government initiatives to create flexible and resilient C4ISR architectures, protect critical infrastructure, Industrial Control Systems (ICS), Supervisory Control And Data Acquisition (SCADA) systems, and evaluate cyber defensive capabilities. The services to be provided shall include creating assessments, conducting studies, and performing analyses to enhance cyber operations on existing and future cyber sensing capabilities (**Section F, Deliverable 54**). The contractor shall plan, design, and build IT architectural models and prototypes to test the effectiveness of advanced tools and technologies for cyber defense. When needed, the contractor shall coordinate and manage participation in these studies by national laboratories, red teams, and other Government and academic scientific organizations. The work to be performed shall require the contractor to execute cyber vulnerability assessments and penetration tests of new technologies before use in production environments. Furthermore, the contractor shall document recommendations and test results (**Section F, Deliverable 55**) and provide support services to assist in coordinating implementation of those enhanced capabilities into C4ISR systems, as required.

C.5.4.2 SUBTASK 2 – CYBER SYSTEMS ENGINEERING SUPPORT

The contractor shall provide engineering expertise and support for “end-to-end sensor-to-shooter” network operations including MA of Theater and Force level data collection and distribution, which is required for operational and tactical C2. The contractor shall provide accelerated engineering for systems to ensure proper end-to-end integration, technical insertion, resolution of system issues, and operation of emergent and existing cyber-sensing and cyber operations capabilities up to and including Sensitive Compartmented Information (SCI) level systems. The contractor shall provide onsite engineering, design, test, and integration support for global and theater C2 communication and service nodes involved in the integration of new technologies. Additionally, the contractor shall provide engineering expertise for fixed and mobile Radio Frequency (RF) and baseband equipment, including recommended design changes and modifications for MA of C4ISR systems. The contractor shall also provide documentation for these engineering efforts including network, information assurance, restoration procedures, site reconfiguration upgrades, modifications in support of the command’s oversight, and testing mission and resulting CONOPS and TTPs (**Section F, Deliverable 56**).

C.5.4.3 SUBTASK 3 – CYBER DYNAMIC DEFENSE SUPPORT

The contractor shall provide technical expertise in support of DoD and Government efforts to investigate, analyze and test cyber agility and cyber maneuver capabilities. These capabilities will also defend critical C2 capabilities in a moving target defense environment. Cyber moving target techniques to be investigated include:

- a. Dynamic Networks – Change network properties and configurations (e.g., internet protocol [IP] addresses and port numbers).
- b. Dynamic Platforms – Change platform properties (e.g., central processing unit [CPU] or operating system).
- c. Dynamic Run-time Environments – Change the environment during execution (e.g., memory randomization).

- d. Dynamic Software – Change application code (e.g., create different variations of binary during compilation).
- e. Dynamic Data – Change data format or representation (e.g., data syntax).

C.5.4.4 SUBTASK 4 – CYBER MISSION MAPPING AND SITUATIONAL AWARENESS SUPPORT

The contractor shall provide technical expertise to investigate dependencies between military or other Government cyber missions and the C4ISR systems and networks that support them. The contractor shall provide innovative means of communicating and understanding these relationships and the inherent strengths and vulnerabilities to missions of interest to the COCOM. The contractor shall assess material or non-material solutions to improve the effectiveness of these systems to the warfighter, based on understanding and addressing strengths and vulnerabilities. The contractor shall document these dependencies, findings from investigations and assessments, and then provide innovative recommendations to optimize C4ISR capabilities for the warfighter (**Section F, Deliverable 57**).

C.5.4.5 SUBTASK 5 – CYBER READINESS TESTING AND ASSESSMENT SUPPORT

The contractor shall provide all necessary support, including ancillary set-up tasks, to conduct readiness assessment of cyber capabilities and the workforce. The contractor shall create evaluation plans, build operationally representative environments in designated exercise or cyber range venues, and then prepare and conduct tests. During and after tests, the contractor shall provide analysis of results, develop recommended solutions for gaps, and complete assessment reports. The contractor shall also provide lessons learned and operational insights for future test and evaluation requirements in support of the CWIC and others (**Section F, Deliverable 58**).

C.5.4.6 SUBTASK 6 – NETWORK SUSTAINMENT OPERATIONS ENGINEERING SERVICES SUPPORT

In support of the CWIC and its closed-loop cyber ranges, the contractor shall assist with IT network architecture research and design, provide documentation for network device configurations, and analyze network performance after new configurations are implemented (**Section F, Deliverable 64**). The contractor shall provide the CWIC with cyber range coordination, cyber range content development, range interconnection coordination, information assurance services, and network engineering services to test IT network architectures, support Cyber Protection Team (CPT) and Cyber Mission Team (CMT) training events, and support network installations. The contractor shall provide the CWIC with support for cyber for all training events, such as cyber degraded training, which allows the operational staff and Cyber Mission Forces (CMF) to interact and train together with a cyber-centric scenario. To do this, the contractor shall provide planning and setup support for demonstration and testing of the solution network architectures and cyber operations capabilities, platforms, and prototypes. This work shall include site surveys, design of target range networks, and range accreditation activities (**Section F, Deliverable 59**). The contractor shall also provide ancillary engineering services for set-up and maintenance of cyber range venues and capabilities in support of tasks under **Sections C.5.2, C.5.3, and C.5.4**. The contractor shall provide system operations, testing, and test result documentation (**Section F, Deliverable 60**).

C.5.4.7 SUBTASK 7 – OPEN ARCHITECTURE PLATFORMSUPPORT

The contractor shall provide technical professional services for DoD efforts to integrate communications, sensors, and devices into the open architectures for existing and emerging military systems among the joint force. The contractor shall analyze concepts and assess the military utility of these integrated systems using open architectures, to the maximum extent possible, such as leveraging systems already operationally fielded. Implementation shall include technical planning for and insertion of capabilities assessment environments including joint exercises, field tests, modeling, simulation, and war games. Additionally, the contractor shall assess the impact acquisition strategies in relation to implementation of these integrated systems. The contractor shall document test plans and evaluation results as part of this subtask (**Section F, Deliverable 61**).